WE CLAIM:

1. A method for processing and chemically disinfecting infectious waste material, comprising the steps of:

transporting a wheeled enclosure containing lift and dumping means, a hopper, grinding and grating means, immersion vat means, conveyor means, suction and filter means, a source of power, a source of chemical disinfectant, and a source of fresh water, to a location where infectious waste material is stored;

placing said infectious waste material into a cart, placing said cart on said lift and dumping means, and dumping said infectious waste material into said hopper;

feeding said infectious waste material from said hopper to said grinding and grating means and grinding, grating, and macerating it into waste particles of a small size range of confetti-like material which is unrecognizable as to the source;

spraying said infectious waste material with a chemical disinfectant as it is fed to said grinding and grating means and again after grinding, grating, and macerating it;

immersing said waste particle material in said chemical disinfectant contained in said immersion vat means;

after immersion, conveying said waste particle material from said vat means to the exterior of said wheeled enclosure in an enclosed screw conveyor system and mixing said waste particles and said chemical disinfectant together as they are conveyed therein;

drying said waste particle material it while it is being conveyed in said enclosed screw conveyor system;

subjecting said grinding and grating means, and said enclosed screw conveyor system to negative air pressure as said particles are being ground, grated, macerated, and conveyed, and venting the air through a filter to remove chemical fumes, airborne dust particles, odors, and bacteria therefrom; and

discharging said dry confetti-like material from said enclosed screw conveyor system.

2. The method according to claim 1, wherein

said steps of spraying and immersing said waste particles in a chemical disinfectant comprises immersing said waste particles in a liquid solution of sodium hypochlorite (NaOCl) containing an effective concentration of hypochlorous acid (HOCl) sufficient to produce at least a 4 Log_{10} reduction in the numbers of active microorganisms present in said waste particles.

3. The method according to claim 1, wherein

said steps of spraying and of immersing said waste particles in a chemical disinfectant comprises immersing said waste particles in a liquid solution of sodium hypochlorite (NaOCl) adjusted to a pH in the range of about 4.0 to about 6.0 to produce a final concentration of 2,500 ppm hypochlorous acid (HOCl) which serves as the microbiocidal component of said disinfectant solution.

4. The method according to claim 1, wherein

said step of grinding grinding, grating, and macerating said waste particles in said grinding and grating means includes passing said waste material through a set of blades rotatably engaged in slots a slotted grate to grind, grate, macerate, and reduce said waste material into confetti-like particles which are unrecognizable as to the source.

5. The method according to claim 1, including the further step of

compacting said dry confetti-like material discharged from said enclosed screw conveyor system.

6. The method according to claim 1, wherein

said step of drying said waste particle material it while it is being conveyed in said enclosed screw conveyor system is accomplished by hot air from a heater connected with said enclosed screw conveyor system.

7. The method according to claim 1, wherein

said step of drying said waste particle material it while it is being conveyed in said enclosed screw conveyor system is accomplished by hot air from the exhaust of a diesel generator heater connected with said enclosed screw conveyor system.

8. A mobile self-contained waste processing and chemical disinfecting apparatus for processing infectious waste material comprising:

a wheeled enclosure transportable to a predetermined location and containing a source of power, a source of chemical disinfectant and a source of fresh water;

lift and dumping means on said wheeled enclosure for receiving a cart containing infectious waste material and dumping said infectious waste material from said cart;

a hopper in said wheeled enclosure adjacent to said lift and dumping means for receiving said dumped infectious waste material;

grinding and grating means in said wheeled enclosure connected to said hopper for receiving said infectious waste material and grinding, grating, and macerating it into waste particles of confetti-like material which is unrecognizable as to the source;

first spray means connected with said hopper and with said chemical disinfectant source for wetting said infectious waste material as it is received in said grinding and grating means,

an enclosed upwardly inclined screw conveyor connected with said grinding and grating means for receiving said waste particle material therefrom and containing a quantity of chemical disinfectant at a lower end thereof for receiving said waste particle material, immersing it in said chemical disinfectant, and conveying said waste particle material to an upper end;

second spray means disposed between said grinding and grating means and said lower end of said upwardly inclined screw conveyor and connected with said chemical disinfectant source for wetting said waste particle material as it is received in said upwardly inclined screw conveyor;

an enclosed vertical screw conveyor having a lower portion disposed within said wheeled enclosure connected with said inclined enclosed screw conveyor upper end for receiving said waste particle material therefrom and an upper portion extending outwardly through said wheeled enclosure;

suction and filter means connected in communication with said grinding and grating means, said upwardly inclined screw conveyor, and said vertical screw conveyor to produce a negative pressure therein to remove chemical fumes, airborne dust particles, odors, and bacteria therefrom;

drying means connected with said grinding and grating means, said upwardly inclined screw conveyor, and said vertical screw conveyor to dry said waste particle material; and

an enclosed horizontal discharge screw conveyor disposed exterior of said wheeled enclosure connected a first end with said vertical enclosed screw conveyor outwardly extending portion for receiving said waste particle material therefrom and having a discharge outlet at a second end for discharging it.

9. The apparatus according to claim 8, wherein

said drying means comprises a heater connected in communication with said grinding and grating means, said upwardly inclined screw conveyor, and said vertical screw conveyor to dry said waste particle material with hot air.

10. The apparatus according to claim 8, wherein

said source of power comprises an electrical generator driven by a petroleum fuel engine.

11. The apparatus according to claim 10, wherein

said petroleum fuel engine having an exhaust connected in communication with said grinding and grating means, said upwardly inclined screw conveyor, and said vertical screw conveyor to function as said drying means to dry said waste particle material with exhaust heat.

12. The apparatus according to claim 8, wherein

said chemical disinfectant comprises a liquid solution of sodium hypochlorite (NaOCl) containing an effective concentration of hypochlorous acid (HOCl) sufficient to produce at least a 4 Log_{10} reduction in the numbers of active microorganisms present in said waste particles.

13. The apparatus according to claim 8, wherein

said chemical disinfectant comprises a liquid solution of sodium hypochlorite (NaOCl) adjusted to a pH in the range of about 4.0 to about 6.0 to produce a final concentration of 2,500 ppm hypochlorous acid (HOCl) which serves as the microbiocidal component of said disinfectant solution.

14. The apparatus according to claim 8, wherein

said grinding and grating means has a slotted grate and a set of blades rotatably engaged therein for receiving said infectious waste material, and grinding, grating, macerating, and reducing it into confetti-like particles of from about 1/8" to about 1/2" in size.

15. The apparatus according to claim 8, wherein

said slotted grate is heated by the friction of said rotating blades and said blades force hot air through said waste particles to dry them as they pass through said grinding and grating means.

16. The apparatus according to claim 8, further comprising:

compactor means for receiving and compacting said discharged waste particle material.

17. The apparatus according to claim 8, wherein

said lift and dumping means comprises a pair of rails mounted on the rear end of said trailer;

a lift carriage having rollers engaged with said pair of rails, a chain and sprocket assembly connected with said rollers, and a hydraulic brake motor connected with said chain and sprocket assembly for raising and lowering said carriage on said rails, and a rotary actuator at an upper end of said carriage; and

a platform connected with said rotary actuator for supporting a cart containing one or more bags of waste material to be processed and having hydraulic grip means for gripping the cart;

said rotary actuator rotating said platform and tipping the cart over as said carriage reaches an uppermost position to dump the contents of the cart into said hopper.